

### **Abstract of the Invention**

A low profile antenna includes an antenna and a ground plane structure operatively associated with the antenna. The ground plane structure has a generally planar surface, at least one protrusion extending from the planar surface and a dielectric substrate supported by the planar surface. The dielectric substrate includes a relative permeability ( $\mu$ ) of greater than or equal to about one and a relative permittivity ( $\epsilon$ ) of greater than or equal to about one.